

SEQUENCE LISTING

<110> Hastings, et al.

<120> HUMAN OSTEOCLAST-DERIVED CATHEPSIN

<130> PF107D5

<150> 08/553,125

<151> 1995-11-07

<150> 08/208,007

<151> 1994-03-08

<160> 14

<170> PatentIn Ver. 2.1

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gtg agc ttt gct ctg tac cct gag gag ata ctg gac acc cac tgg gag 100

Val Ser Phe Ala Leu Tyr Pro Glu Glu Ile Leu Asp Thr His Trp Glu
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cta tgg aag aag acc cac agg aag caa tat aac aac aag gtg gat gaa 148

Leu Trp Lys Lys Thr His Arg Lys Gln Tyr Asn Asn Lys Val Asp Glu
-85 -80 -75

atc tct cgg cgt tta att tgg gaa aaa aac ctg aag tat att tcc atc 196

Ile Ser Arg Arg Leu Ile Trp Glu Lys Asn Leu Lys Tyr Ile Ser Ile
-70 -65 -60

cat aac ctt gag gct tct ctt ggt gtc cat aca tat gaa ctg gct atg 244

His Asn Leu Glu Ala Ser Leu Gly Val His Thr Tyr Glu Leu Ala Met
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aac cac ctg ggg gac atg acc agt gaa gag gtg gtt cag aag atg act 292

Asn His Leu Gly Asp Met Thr Ser Glu Glu Val Val Gln Lys Met Thr
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Gly Leu Lys Val Pro Leu Ser His Ser Arg Ser Asn Asp Thr Leu Tyr	
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atc cca gaa tgg gaa ggt aga gcc cca gac tct gtc gac tat cga aag	388
Ile Pro Glu Trp Glu Gly Arg Ala Pro Asp Ser Val Asp Tyr Arg Lys	
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aaa gga tat gtt act cct gtc aaa aat cag ggt cag tgt ggt tcc tgt	436
Lys Gly Tyr Val Thr Pro Val Lys Asn Gln Gly Gln Cys Gly Ser Cys	
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tgg gct ttt agc tct gtg ggt gcc ctg gag ggc caa ctc aag aag aaa	484
Trp Ala Phe Ser Ser Val Gly Ala Leu Glu Gly Gln Leu Lys Lys Lys	
25 30 35 40	
act ggc aaa ctc tta aat ctg agt ccc cag aac cta gtg gat tgt gtg	532
Thr Gly Lys Leu Leu Asn Leu Ser Pro Gln Asn Leu Val Asp Cys Val	
45 50 55	
tct gag aat gat ggc tgt gga ggg ggc tac atg acc aat gcc ttc caa	580
Ser Glu Asn Asp Gly Cys Gly Gly Gly Tyr Met Thr Asn Ala Phe Gln	
60 65 70	
tat gtg cag aag aac cgg ggt att gac tct gaa gat gcc tac cca tat	628
Tyr Val Gln Lys Asn Arg Gly Ile Asp Ser Glu Asp Ala Tyr Pro Tyr	
75 80 85	
gtg gga cag gaa gag agt tgt atg tac aac cca aca ggc aag gca gct	676
Val Gly Gln Glu Glu Ser Cys Met Tyr Asn Pro Thr Gly Lys Ala Ala	
90 95 100	
aaa tgc aga ggg tac aga gag atc ccc gag ggg aat gag aaa gcc ctg	724
Lys Cys Arg Gly Tyr Arg Glu Ile Pro Glu Gly Asn Glu Lys Ala Leu	
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aag agg gca gtg gcc cga gtg gga cct gtc tct gtg gcc att gat gca	772
Lys Arg Ala Val Ala Arg Val Gly Pro Val Ser Val Ala Ile Asp Ala	
125 130 135	
agc ctg acc tcc ttc cag ttt tac agc aaa ggt gtg tat tat gat gaa	820
Ser Leu Thr Ser Phe Gln Phe Tyr Ser Lys Gly Val Tyr Tyr Asp Glu	
140 145 150	
agc tgc aat agc gat aat ctg aac cat gcg gtt ttg gca gtg gga tat	868
Ser Cys Asn Ser Asp Asn Leu Asn His Ala Val Leu Ala Val Gly Tyr	
155 160 165	
gga atc cag aag gga aac aag cac tgg ata att aaa aac agc tgg gga	916
Gly Ile Gln Lys Gly Asn Lys His Trp Ile Ile Lys Asn Ser Trp Gly	
170 175 180	
gaa aac tgg gga aac aaa gga tat atc ctc atg gct cga aat aag aac	964
Glu Asn Trp Gly Asn Lys Gly Tyr Ile Leu Met Ala Arg Asn Lys Asn	
185 190 195 200	
aac gcc tgt ggc att gcc aac ctg gcc agc ttc ccc aag atg tga	1009
Asn Ala Cys Gly Ile Ala Asn Leu Ala Ser Phe Pro Lys Met	
205 210	
ctccagccag ccaaattccat cctgctcttc catttcttcc acgatggtgc agtgtaacga	1069

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 His Arg Lys Gln Tyr Asn Asn Lys Val Asp Glu Ile Ser Arg Arg Leu
 -80 -75 -70
 Ile Trp Glu Lys Asn Leu Lys Tyr Ile Ser Ile His Asn Leu Glu Ala
 -65 -60 -55
 Ser Leu Gly Val His Thr Tyr Glu Leu Ala Met Asn His Leu Gly Asp
 -50 -45 -40
 Met Thr Ser Glu Glu Val Val Gln Lys Met Thr Gly Leu Lys Val Pro
 -35 -30 -25 -20
 Leu Ser His Ser Arg Ser Asn Asp Thr Leu Tyr Ile Pro Glu Trp Glu
 -15 -10 -5
 Gly Arg Ala Pro Asp Ser Val Asp Tyr Arg Lys Lys Gly Tyr Val Thr
 -1 1 5 10
 Pro Val Lys Asn Gln Gly Gln Cys Gly Ser Cys Trp Ala Phe Ser Ser
 15 20 25
 Val Gly Ala Leu Glu Gly Gln Leu Lys Lys Lys Thr Gly Lys Leu Leu
 30 35 40 45
 Asn Leu Ser Pro Gln Asn Leu Val Asp Cys Val Ser Glu Asn Asp Gly
 50 55 60
 Cys Gly Gly Gly Tyr Met Thr Asn Ala Phe Gln Tyr Val Gln Lys Asn
 65 70 75
 Arg Gly Ile Asp Ser Glu Asp Ala Tyr Pro Tyr Val Gly Gln Glu Glu
 80 85 90
 Ser Cys Met Tyr Asn Pro Thr Gly Lys Ala Ala Lys Cys Arg Gly Tyr
 95 100 105
 Arg Glu Ile Pro Glu Gly Asn Glu Lys Ala Leu Lys Arg Ala Val Ala
 110 115 120 125
 Arg Val Gly Pro Val Ser Val Ala Ile Asp Ala Ser Leu Thr Ser Phe
 130 135 140
 Gln Phe Tyr Ser Lys Gly Val Tyr Tyr Asp Glu Ser Cys Asn Ser Asp
 145 150 155

Asn Leu Asn His Ala Val Leu Ala Val Gly Tyr Gly Ile Gln Lys Gly
 160 165 170
 Asn Lys His Trp Ile Ile Lys Asn Ser Trp Gly Glu Asn Trp Gly Asn
 175 180 185
 Lys Gly Tyr Ile Leu Met Ala Arg Asn Lys Asn Asn Ala Cys Gly Ile
 190 195 200 205
 Ala Asn Leu Ala Ser Phe Pro Lys Met
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26

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 His Pro Glu Glu Ile Leu Asp Thr Gln Trp Glu Leu Trp Lys Lys Thr
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Tyr Ser Lys Gln Tyr Asn Ser Lys Val Asp Glu Ile Ser Arg Arg Leu
 35 40 45
 Ile Trp Glu Lys Asn Leu Lys His Ile Ser Ile His Asn Leu Glu Ala
 50 55 60
 Ser Leu Gly Val His Thr Tyr Glu Leu Ala Met Asn His Leu Gly Asp
 65 70 75 80
 Met Thr Ser Glu Glu Val Val Gln Lys Met Thr Gly Leu Lys Val Pro
 85 90 95
 Pro Ser Arg Ser His Ser Asn Asp Thr Leu Tyr Ile Pro Asp Trp Glu
 100 105 110
 Gly Arg Thr Pro Asp Ser Ile Asp Tyr Arg Lys Lys Gly Tyr Val Thr
 115 120 125
 Pro Val Lys Asn Gln Gly Gln Cys Gly Ser Cys Trp Ala Phe Ser Ser
 130 135 140
 Val Gly Ala Leu Glu Gly Gln Leu Lys Lys Lys Thr Gly Lys Leu Leu
 145 150 155 160
 Asn Leu Ser Pro Gln Asn Leu Val Asp Cys Val Ser Glu Asn Tyr Gly
 165 170 175
 Cys Gly Gly Gly Tyr Met Thr Asn Ala Phe Gln Tyr Val Gln Arg Asn
 180 185 190
 Arg Gly Ile Asp Ser Glu Asp Ala Tyr Pro Tyr Val Gly Gln Asp Glu
 195 200 205
 Ser Cys Met Tyr Asn Pro Thr Gly Lys Ala Ala Lys Cys Arg Gly Tyr
 210 215 220
 Arg Glu Ile Pro Glu Gly Asn Glu Lys Ala Leu Lys Arg Ala Val Ala
 225 230 235 240
 Arg Val Gly Pro Val Ser Val Ala Ile Asp Ala Ser Leu Thr Ser Phe
 245 250 255
 Gln Phe Tyr Ser Lys Gly Val Tyr Tyr Asp Glu Asn Cys Ser Ser Asp
 260 265 270
 Asn Val Asn His Ala Val Leu Ala Val Gly Tyr Gly Ile Gln Lys Gly
 275 280 285
 Asn Lys His Trp Ile Ile Lys Asn Ser Trp Gly Glu Ser Trp Gly Asn
 290 295 300
 Lys Gly Tyr Ile Leu Met Ala Arg Asn Lys Asn Asn Ala Cys Gly Ile
 305 310 315 320
 Ala Asn Leu Ala Ser Phe Pro Lys Met
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<400> 8

Met Lys Arg Leu Val Cys Val Leu Leu Val Cys Ser Ser Ala Val Ala
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Gln Leu His Lys Asp Pro Thr Leu Asp His His Trp His Leu Trp Lys
20 25 30

Lys Thr Tyr Gly Lys Gln Tyr Lys Glu Lys Asn Glu Glu Ala Val Arg
35 40 45

Arg Leu Ile Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu
50 55 60

Glu His Ser Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu
65 70 75 80

Gly Asp Met Thr Ser Glu Glu Val Met Ser Leu Thr Ser Ser Leu Arg
85 90 95

Val Pro Ser Gln Trp Gln Arg Asn Ile Thr Tyr Lys Ser Asn Pro Asn
100 105 110

Arg Ile Leu Pro Asp Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr
115 120 125

Glu Val Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala
130 135 140

Val Gly Ala Leu Glu Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val
145 150 155 160

Thr Leu Ser Ala Gln Asn Leu Val Asp Cys Ser Thr Glu Lys Tyr Gly
165 170 175

Asn Lys Gly Cys Asn Gly Gly Phe Met Thr Thr Ala Phe Gln Tyr Ile
180 185 190

Ile Asp Asn Lys Gly Ile Asp Ser Asp Ala Ser Tyr Pro Tyr Lys Ala
195 200 205

Met Asp Gln Lys Cys Gln Tyr Asp Ser Lys Tyr Arg Ala Ala Thr Cys
210 215 220

Ser Lys Tyr Thr Glu Leu Pro Tyr Gly Arg Glu Asp Val Leu Lys Glu
225 230 235 240

Ala Val Ala Asn Lys Gly Pro Val Ser Val Gly Val Asp Ala Arg His
245 250 255

Pro Ser Phe Phe Leu Tyr Arg Ser Gly Val Tyr Tyr Glu Pro Ser Cys
260 265 270

Thr Gln Asn Val Asn His Gly Val Leu Val Val Gly Tyr Gly Asp Leu
275 280 285

Asn Gly Lys Glu Tyr Trp Leu Val Lys Asn Ser Trp Gly His Asn Phe
290 295 300

Gly Glu Glu Gly Tyr Ile Arg Met Ala Arg Asn Lys Gly Asn His Cys
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Gly Ile Ala Ser Phe Pro Ser Tyr Pro Glu Ile
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Ala Thr Leu Thr Phe Asp His Ser Leu Glu Ala Gln Trp Thr Lys Trp
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Lys Ala Met His Asn Arg Leu Tyr Gly Met Asn Glu Glu Gly Trp Arg
 35 40 45

Arg Ala Val Trp Glu Lys Asn Met Lys Met Ile Glu Leu His Asn Gln
 50 55 60

Glu Tyr Arg Glu Gly Lys His Ser Phe Thr Met Ala Met Asn Ala Phe
 65 70 75 80

Gly Asp Met Thr Ser Glu Glu Phe Arg Gln Val Met Asn Gly Phe Gln
 85 90 95

Asn Arg Lys Pro Arg Lys Gly Lys Val Phe Gln Glu Pro Leu Phe Tyr
 100 105 110

Glu Ala Pro Arg Ser Val Asp Trp Arg Glu Lys Gly Tyr Val Thr Pro
 115 120 125

Val Lys Asn Gln Gly Gln Cys Gly Ser Cys Trp Ala Phe Ser Ala Thr
 130 135 140

Gly Ala Leu Glu Gly Gln Met Phe Arg Lys Thr Gly Arg Leu Ile Ser
 145 150 155 160

Leu Ser Glu Gln Asn Leu Val Asp Cys Ser Gly Pro Gln Gly Asn Glu
 165 170 175

Gly Cys Asn Gly Gly Leu Met Asp Tyr Ala Phe Gln Tyr Val Gln Asp
 180 185 190

Asn Gly Gly Leu Asp Ser Glu Glu Ser Tyr Pro Tyr Glu Ala Thr Glu
 195 200 205

Glu Ser Cys Lys Tyr Asn Pro Lys Tyr Ser Val Ala Asn Asp Thr Gly
 210 215 220

Phe Val Asp Ile Pro Lys Gln Glu Lys Ala Leu Met Lys Ala Val Ala
 225 230 235 240

Thr Val Gly Pro Ile Ser Val Ala Ile Asp Ala Gly His Glu Ser Phe
 245 250 255

Leu Phe Tyr Lys Glu Gly Ile Tyr Phe Glu Pro Asp Cys Ser Ser Glu
 260 265 270
 Asp Met Asp His Gly Val Leu Val Val Gly Tyr Gly Phe Glu Ser Thr
 275 280 285
 Glu Ser Asp Asn Asn Lys Tyr Trp Leu Val Lys Asn Ser Trp Gly Glu
 290 295 300
 Glu Trp Gly Met Gly Gly Tyr Val Lys Met Ala Lys Asp Arg Arg Asn
 305 310 315 320
 His Cys Gly Ile Ala Ser Ala Ala Ser Tyr Pro Thr Val
 325 330

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 Val Pro Val Cys Gly Ala Ala Glu Leu Ser Val Asn Ser Leu Glu Lys
 20 25 30
 Phe His Phe Lys Ser Trp Met Ser Lys His Arg Lys Thr Tyr Ser Thr
 35 40 45
 Glu Glu Tyr His His Arg Leu Gln Thr Phe Ala Ser Asn Trp Arg Lys
 50 55 60
 Ile Asn Ala His Asn Asn Gly Asn His Thr Phe Lys Met Ala Leu Asn
 65 70 75 80
 Gln Phe Ser Asp Met Ser Phe Ala Glu Ile Lys His Lys Tyr Leu Trp
 85 90 95
 Ser Glu Pro Gln Asn Cys Ser Ala Thr Lys Ser Asn Tyr Leu Arg Gly
 100 105 110
 Thr Gly Pro Tyr Pro Pro Ser Val Asp Trp Arg Lys Lys Gly Asn Phe
 115 120 125
 Val Ser Pro Val Lys Asn Gln Gly Ala Cys Gly Ser Cys Trp Thr Phe
 130 135 140
 Ser Thr Thr Gly Ala Leu Glu Ser Ala Ile Ala Ile Ala Thr Gly Lys
 145 150 155 160
 Met Leu Ser Leu Ala Glu Gln Gln Leu Val Asp Cys Ala Gln Asp Phe
 165 170 175
 Asn Asn Tyr Gly Cys Gln Gly Gly Leu Pro Ser Gln Ala Phe Glu Tyr
 180 185 190
 Ile Leu Tyr Asn Lys Gly Ile Met Gly Glu Asp Thr Tyr Pro Tyr Gln

195					200					205						
Gly	Lys	Asp	Gly	Tyr	Cys	Lys	Phe	Gln	Pro	Gly	Lys	Ala	Ile	Gly	Phe	
210					215					220						
Val	Lys	Asp	Val	Ala	Asn	Ile	Thr	Ile	Tyr	Asp	Glu	Glu	Ala	Met	Val	
225					230					235					240	
Glu	Ala	Val	Ala	Leu	Tyr	Asn	Pro	Val	Ser	Phe	Ala	Phe	Glu	Val	Thr	
245					250					255						
Gln	Asp	Phe	Met	Met	Tyr	Arg	Thr	Gly	Ile	Tyr	Ser	Ser	Thr	Ser	Cys	
260					265					270						
His	Lys	Thr	Pro	Asp	Lys	Val	Asn	His	Ala	Val	Leu	Ala	Val	Gly	Tyr	
275					280					285						
Gly	Glu	Lys	Asn	Gly	Ile	Pro	Tyr	Trp	Ile	Val	Lys	Asn	Ser	Trp	Gly	
290					295					300						
Pro	Gln	Trp	Gly	Met	Asn	Gly	Tyr	Phe	Leu	Ile	Glu	Arg	Gly	Lys	Asn	
305					310					315					320	
Met	Cys	Gly	Leu	Ala	Ala	Cys	Ala	Ser	Tyr	Pro	Ile	Pro	Leu	Val		
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<400> 11
 Met Trp Gln Leu Trp Ala Ser Leu Cys Cys Leu Leu Val Leu Ala Asn
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 Ala Arg Ser Arg Pro Ser Phe His Pro Leu Ser Asp Glu Leu Val Asn
 20 25 30
 Tyr Val Asn Lys Arg Asn Thr Thr Trp Gln Ala Gly His Asn Phe Tyr
 35 40 45
 Asn Val Asp Met Ser Tyr Leu Lys Arg Leu Cys Gly Thr Phe Leu Gly
 50 55 60
 Gly Pro Lys Pro Pro Gln Arg Val Met Phe Thr Glu Asp Leu Lys Leu
 65 70 75 80
 Pro Ala Ser Phe Asp Ala Arg Glu Gln Trp Pro Gln Cys Pro Thr Ile
 85 90 95
 Lys Glu Ile Arg Asp Gln Gly Ser Cys Gly Ser Cys Trp Ala Phe Gly
 100 105 110
 Ala Val Glu Ala Ile Ser Asp Arg Ile Cys Ile His Thr Asn Ala His
 115 120 125
 Val Ser Val Glu Val Ser Ala Glu Asp Leu Leu Thr Cys Cys Gly Ser
 130 135 140
 Met Cys Gly Asp Gly Cys Asn Gly Gly Tyr Pro Ala Glu Ala Trp Asn

145		150		155		160
Phe Trp Thr Arg Lys Gly Leu Val Ser Gly Gly Leu Tyr Glu Ser His						
	165			170		175
Val Gly Cys Arg Pro Tyr Ser Ile Pro Pro Cys Glu His His Val Asn						
	180		185			190
Gly Ser Arg Pro Pro Cys Thr Gly Glu Gly Asp Thr Pro Lys Cys Ser						
	195		200		205	
Lys Ile Cys Glu Pro Gly Tyr Ser Pro Thr Tyr Lys Gln Asp Lys His						
	210		215		220	
Tyr Gly Tyr Asn Ser Tyr Ser Val Ser Asn Ser Glu Lys Asp Ile Met						
	225		230		235	240
Ala Glu Ile Tyr Lys Asn Gly Pro Val Glu Gly Ala Phe Ser Val Tyr						
	245		250			255
Ser Asp Phe Leu Leu Tyr Lys Ser Gly Val Tyr Gln His Val Thr Gly						
	260		265			270
Glu Met Met Gly Gly His Ala Ile Arg Ile Leu Gly Trp Gly Val Glu						
	275		280		285	
Asn Gly Thr Pro Tyr Trp Leu Val Ala Asn Ser Trp Asn Thr Asp Trp						
	290		295		300	
Gly Asp Asn Gly Phe Phe Lys Ile Leu Arg Gly Gln Asp His Cys Gly						
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Ile Glu Ser Glu Val Val Ala Gly Ile Pro Arg Thr Asp Gln Tyr Trp						
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Glu Lys Ile						

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 Pro Ala Ser Ala Leu Val Arg Ile Pro Leu His Lys Phe Thr Ser Ile
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 Arg Arg Thr Met Ser Glu Val Gly Gly Ser Val Glu Asp Leu Ile Ala
 35 40 45
 Lys Gly Pro Val Ser Lys Tyr Ser Gln Ala Val Pro Ala Val Thr Glu
 50 55 60
 Gly Pro Ile Pro Glu Val Leu Lys Asn Tyr Met Asp Ala Gln Tyr Tyr
 65 70 75 80

Gly	Glu	Ile	Gly	Ile	Gly	Thr	Pro	Pro	Gln	Cys	Phe	Thr	Val	Val	Phe	
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Asp	Thr	Gly	Ser	Ser	Asn	Leu	Trp	Val	Pro	Ser	Ile	His	Cys	Lys	Leu	
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Leu	Asp	Ile	Ala	Cys	Trp	Ile	His	His	Lys	Tyr	Asn	Ser	Asp	Lys	Ser	
				115					120					125		
Ser	Thr	Tyr	Val	Lys	Asn	Gly	Thr	Ser	Phe	Asp	Ile	His	Tyr	Gly	Ser	
				130					135					140		
Gly	Ser	Leu	Ser	Gly	Tyr	Leu	Ser	Gln	Asp	Thr	Val	Ser	Val	Pro	Cys	
					150					155						160
Gln	Ser	Ala	Ser	Ser	Ala	Ser	Ala	Leu	Gly	Gly	Val	Lys	Val	Glu	Arg	
				165					170						175	
Gln	Val	Phe	Gly	Glu	Ala	Thr	Lys	Gln	Pro	Gly	Ile	Thr	Phe	Ile	Ala	
				180					185					190		
Ala	Lys	Phe	Asp	Gly	Ile	Leu	Gly	Met	Ala	Tyr	Pro	Arg	Ile	Ser	Val	
				195					200					205		
Asn	Asn	Val	Leu	Pro	Val	Phe	Asp	Asn	Leu	Met	Gln	Gln	Lys	Leu	Val	
				210					215					220		
Asp	Gln	Asn	Ile	Phe	Ser	Phe	Tyr	Leu	Ser	Arg	Asp	Pro	Asp	Ala	Gln	
					230					235						240
Pro	Gly	Gly	Glu	Leu	Met	Leu	Gly	Gly	Thr	Asp	Ser	Lys	Tyr	Tyr	Lys	
				245					250					255		
Gly	Ser	Leu	Ser	Tyr	Leu	Asn	Val	Thr	Arg	Lys	Ala	Tyr	Trp	Gln	Val	
				260					265					270		
His	Leu	Asp	Gln	Val	Glu	Val	Ala	Ser	Gly	Leu	Thr	Leu	Cys	Lys	Glu	
				275					280					285		
Gly	Cys	Glu	Ala	Ile	Val	Asp	Thr	Gly	Thr	Ser	Leu	Met	Val	Gly	Pro	
				290					295					300		
Val	Asp	Glu	Val	Arg	Glu	Leu	Gln	Lys	Ala	Ile	Gly	Ala	Val	Pro	Leu	
				305					310					315		
Ile	Gln	Gly	Glu	Tyr	Met	Ile	Pro	Cys	Glu	Lys	Val	Ser	Thr	Leu	Pro	
				325					330					335		
Ala	Ile	Thr	Leu	Lys	Leu	Gly	Gly	Lys	Gly	Tyr	Lys	Leu	Ser	Pro	Glu	
				340					345					350		
Asp	Tyr	Thr	Leu	Lys	Val	Ser	Gln	Ala	Gly	Lys	Thr	Leu	Cys	Leu	Ser	
				355					360					365		
Gly	Phe	Met	Gly	Met	Asp	Ile	Pro	Pro	Pro	Ser	Gly	Pro	Leu	Trp	Ile	
				370					375					380		
Leu	Gly	Asp	Val	Phe	Ile	Gly	Arg	Tyr	Tyr	Thr	Val	Phe	Asp	Arg	Asp	
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Asn	Asn	Arg	Val	Gly	Phe	Ala	Glu	Ala	Ala	Arg	Leu					

<210> 13
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 <213> Homo sapiens

<400> 13

Met Lys Thr Leu Leu Leu Leu Leu Val Leu Leu Glu Leu Gly Glu
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Ala Gln Gly Ser Leu His Arg Val Pro Leu Arg Arg His Pro Ser Leu
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Lys Lys Lys Leu Arg Ala Arg Ser Gln Leu Ser Glu Phe Trp Lys Ser
 35 40 45

His Asn Leu Asp Met Ile Gln Phe Thr Glu Ser Cys Ser Met Asp Gln
 50 55 60

Ser Ala Lys Glu Pro Leu Ile Asn Tyr Leu Asp Met Glu Tyr Phe Gly
 65 70 75 80

Thr Ile Ser Ile Gly Ser Pro Pro Gln Asn Phe Thr Val Ile Phe Asp
 85 90 95

Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Val Tyr Cys Thr Ser Pro
 100 105 110

Ala Cys Lys Thr His Ser Arg Phe Gln Pro Ser Gln Ser Ser Thr Tyr
 115 120 125

Ser Gln Pro Gly Gln Ser Phe Ser Ile Gln Tyr Gly Thr Gly Ser Leu
 130 135 140

Ser Gly Ile Ile Gly Ala Asp Gln Val Ser Val Glu Gly Leu Thr Val
 145 150 155 160

Val Gly Gln Gln Phe Gly Glu Ser Val Thr Glu Pro Gly Gln Thr Phe
 165 170 175

Val Asp Ala Glu Phe Asp Gly Ile Leu Gly Leu Gly Tyr Pro Ser Leu
 180 185 190

Ala Val Gly Gly Val Thr Pro Val Phe Asp Asn Met Met Ala Gln Asn
 195 200 205

Leu Val Asp Leu Pro Met Phe Ser Val Tyr Met Ser Ser Asn Pro Glu
 210 215 220

Gly Gly Ala Gly Ser Glu Leu Ile Phe Gly Gly Tyr Asp His Ser His
 225 230 235 240

Phe Ser Gly Ser Leu Asn Trp Val Pro Val Thr Lys Gln Ala Tyr Trp
 245 250 255

Gln Ile Ala Leu Asp Asn Ile Gln Val Gly Gly Thr Val Met Phe Cys
 260 265 270

Ser Glu Gly Cys Gln Ala Ile Val Asp Thr Gly Thr Ser Leu Ile Thr

275					280					285					
Gly	Pro	Ser	Asp	Lys	Ile	Lys	Gln	Leu	Gln	Asn	Ala	Ile	Gly	Ala	Ala
290						295					300				
Pro	Val	Asp	Gly	Glu	Tyr	Ala	Val	Glu	Cys	Ala	Asn	Leu	Asn	Val	Met
305					310					315					320
Pro	Asp	Val	Thr	Phe	Thr	Ile	Asn	Gly	Val	Pro	Tyr	Thr	Leu	Ser	Pro
				325					330					335	
Thr	Ala	Tyr	Thr	Leu	Leu	Asp	Phe	Val	Asp	Gly	Met	Gln	Phe	Cys	Ser
			340					345					350		
Ser	Gly	Phe	Gln	Gly	Leu	Asp	Ile	His	Pro	Pro	Ala	Gly	Pro	Leu	Trp
		355					360					365			
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			20					25						30	
Pro	Tyr	Met	Ala	Tyr	Leu	Gln	Ile	Gln	Ser	Pro	Ala	Gly	Gln	Ser	Arg
		35					40					45			
Cys	Gly	Gly	Phe	Leu	Val	Arg	Glu	Asp	Phe	Val	Leu	Thr	Ala	Ala	His
	50					55					60				
Cys	Trp	Gly	Ser	Asn	Ile	Asn	Val	Thr	Leu	Gly	Ala	His	Asn	Ile	Gln
65				70						75				80	
Arg	Arg	Glu	Asn	Thr	Gln	Gln	His	Ile	Thr	Ala	Arg	Arg	Ala	Ile	Arg
			85						90					95	
His	Pro	Gln	Tyr	Asn	Gln	Arg	Thr	Ile	Gln	Asn	Asp	Ile	Met	Leu	Leu
			100				105					110			
Gln	Leu	Ser	Arg	Arg	Val	Arg	Arg	Asn	Arg	Asn	Val	Asn	Pro	Val	Ala
		115					120					125			
Leu	Pro	Arg	Ala	Gln	Glu	Gly	Leu	Arg	Pro	Gly	Thr	Leu	Cys	Thr	Val
	130					135					140				
Ala	Gly	Trp	Gly	Arg	Val	Ser	Met	Arg	Arg	Gly	Thr	Asp	Thr	Leu	Arg
145				150						155				160	

Glu	Val	Gln	Leu	Arg	Val	Gln	Arg	Asp	Arg	Gln	Cys	Leu	Arg	Ile	Phe
				165					170					175	
Gly	Ser	Tyr	Asp	Pro	Arg	Arg	Gln	Ile	Cys	Val	Gly	Asp	Arg	Arg	Glu
			180					185					190		
Arg	Lys	Ala	Ala	Phe	Lys	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Leu	Cys	Asn
		195					200					205			
Asn	Val	Ala	His	Gly	Ile	Val	Ser	Tyr	Gly	Lys	Ser	Ser	Gly	Val	Pro
	210					215					220				
Pro	Glu	Val	Phe	Thr	Arg	Val	Ser	Ser	Phe	Leu	Pro	Trp	Ile	Arg	Thr
225					230					235					240
Thr	Met	Arg	Ser	Phe	Lys	Leu	Leu	Asp	Gln	Met	Glu	Thr	Pro	Leu	
				245					250					255	